Advanced Master's Degree

Information Systems Management (CIO, Chief Information Officer)

tech global university

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Advanced Master's Degree

Information Systems Management (CIO, Chief Information Officer)

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Accreditation: **120 ECTS**
- Schedule: **at your own pace**
- Assessments: **online**

Website: www.techtitute.com/us/information-technology/advanced-master-degree/advanced-master-degree-information-sistems-management-cio-chief-information-officer

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Introduction to the Program

Companies are increasingly digitized, integrating numerous processes that ensure greater security in data handling. Teamwork improves efficiency and facilitates the implementation of global and innovative strategies. In this context, the Chief Information Officer (CIO) has become a key figure, responsible for managing and designing strategic plans that drive business growth through advanced technologies. This program provides professionals with the necessary tools to excel in this field, complemented by an in-depth analysis of business management. With a 100% online format, no on-site classes or fixed schedules, it represents a unique opportunity to develop key skills and occupy a prominent place in the management of information systems.

Incorporate the main techniques of leadership in technology and information, advancing decisively towards the position of Chief Information Officer"

New technologies have boosted the development of multiple professional areas by introducing innovative models that not only speed up procedures, but also enhance their safety. However, these technologies are constantly evolving, thanks to research that drives the creation of more advanced applications and tools. CIOs play a key role in selecting and managing the right technologies for each business area.

For this reason, this professional figure is becoming increasingly important in the business world. This Advanced Master's Degree program addresses essential topics such as the design of programs, applications and operating systems, as well as concepts such as electromagnetism, circuits and computer architecture. TECH goes further by integrating up-to-date knowledge of business administration, offering an integral vision to optimize strategic decision making.

The methodological approach, focused on practice, combines theory with real cases, maximizing the effectiveness of learning. With a 100% online format, the program allows you to study from anywhere and manage your time flexibly. An indispensable opportunity to advance professionally in a high-demand field.

This **Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer)** contains the most complete and up-to-date program on the market. Its most notable features are:

- Practical cases presented by experts in Information Systems
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Special emphasis on innovative methodologies in Information Systems Management (CIO, Chief Information Officer)
  Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Drive business value with effective management of information systems, a key to organizational success"

Access a practical method that combines theory and real cases for an effective and current learning"

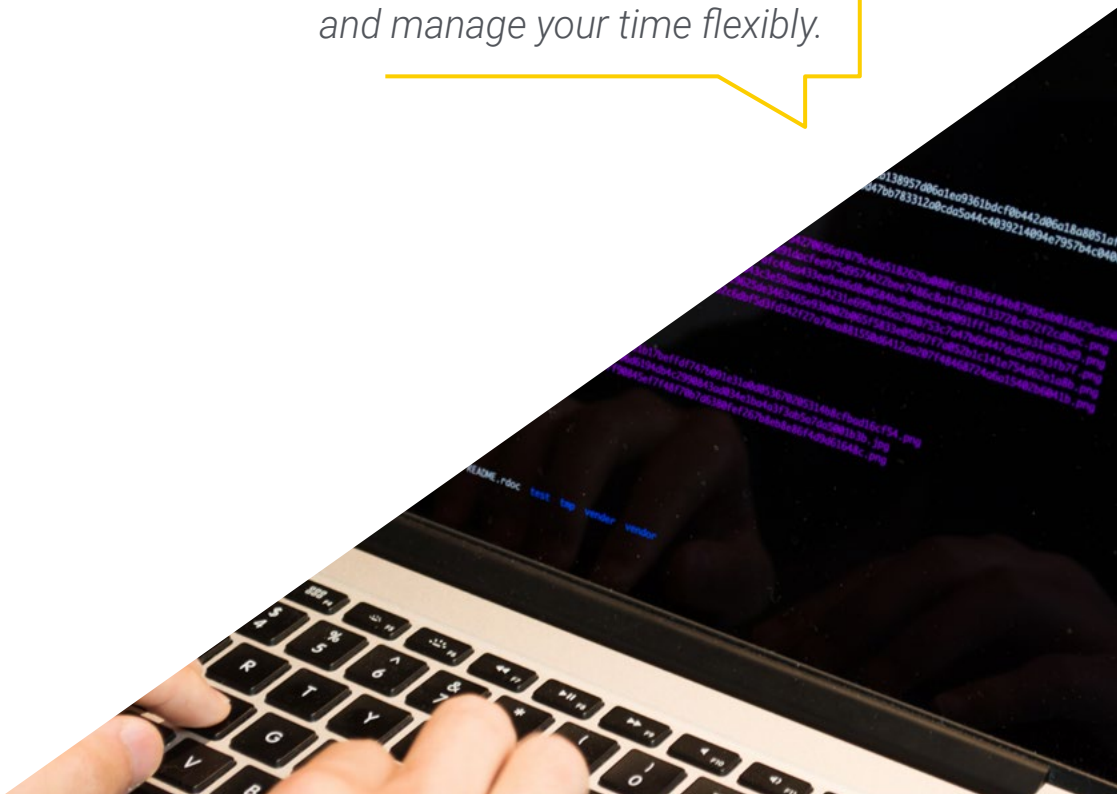
Discover the latest trends in technology applied to information systems with this innovative program.

Take advantage of a 100% online format that allows you to study from anywhere and manage your time flexibly.

It includes in its teaching staff professionals belonging to the Information Systems field, who pour into this program the experience of their work, as well as recognized specialists from reference companies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.



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Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.

Study at the largest online university in the world and ensure your professional success. The future begins at TECH”

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future"

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

The main review websites have positioned TECH as the best rated university in the world by its students. These review portals, recognized for their reliability and prestige due to the rigorous verification and validation of the authenticity of each opinion, have given TECH highly favorable ratings. These ratings place TECH as the absolute international university reference.

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Syllabus

The teaching materials of this Advanced Master's Degree, developed by a team of experts in information systems and business management, offer a comprehensive and up-to-date approach to the latest technological trends and their impact on the business environment. The curriculum combines theory and practice to address advanced information technology tools, innovative strategies and digital business models that optimize processes, increase productivity and promote data-driven decisions. In addition, the content delves into systems integration and technology resource management, preparing students to lead the digital transformation and enhance business growth in a competitive and constantly evolving environment.

You will help companies boost their performance through advanced technological solutions and innovative management strategies"

Module 1. Leadership, Ethics, and CSR

1.1. Globalization and Governance
- 1.1.1. Globalization and Trends: Market Internationalization
- 1.1.2. Economic Environment and Corporate Governance
- 1.1.3. Accountability

1.2. Leadership
- 1.2.1. Intercultural Environment
- 1.2.2. Leadership and Business Management
- 1.2.3. Management Roles and Responsibilities

1.3. Business Ethics
- 1.2.1. Ethics and Integrity
- 1.3.2. Ethical Behavior in Companies
- 1.3.3. Deontology, Codes of Ethics and Codes of Conduct
- 1.3.4. Fraud and Corruption Prevention

1.4. Sustainability
- 1.4.1. Business and Sustainable Development
- 1.4.2. Social, Environmental, and Economic Impact
- 1.4.3. The 2030 Agenda and the SDGs

1.5. Corporate Social Responsibility
- 1.5.1. Corporate Social Responsibility
- 1.5.2. Roles and Responsibilities
- 1.5.3. Implementing Corporate Social Responsibility

Module 2. Strategic Direction and Executive Management

2.1. Organizational Analysis and Design
- 2.1.1. Organizational Culture
- 2.1.2. Analysis of Organizations
- 2.1.3. Designing the Organizational Structure

2.2. Corporate Strategy
- 2.2.1. Corporate-Level Strategy
- 2.2.2. Types of Corporate-Level Strategies
- 2.2.3. Determining the Corporate Strategy
- 2.2.4. Corporate Strategy and Reputational Image

2.3. Strategic Planning and Strategy Formulation
- 2.3.1. Strategic Thinking
- 2.3.2. Strategic Planning and Strategy Formulation
- 2.3.3. Sustainability and Corporate Strategy

2.4. Strategy Models and Patterns
- 2.4.1. Wealth, Value, and Return on Investments
- 2.4.2. Corporate Strategy: Methods
- 2.4.3. Growing and Consolidating the Corporate Strategy

2.5. Strategic Management
- 2.5.1. Strategic Mission, Vision, and Values
- 2.5.2. The Balanced Scorecard
- 2.5.3. Analyzing, Monitoring, and Evaluating the Corporate Strategy
- 2.5.4. Strategic Management and Reporting

2.6. Implementing and Executing Strategy
- 2.6.1. Implementing the Strategy: Objectives, Actions, and Impacts
- 2.6.2. Supervision and Strategic Alignment
- 2.6.3. Continuous Improvement Approach

2.7. Executive Management
- 2.7.1. Functional Integration of the Corporate Strategy
- 2.7.2. Executive Management and Process Development
- 2.7.3. *Knowledge Management*

2.8. Analyzing and Solving Cases/Problems
- 2.8.1. Problem Solving Methodology
- 2.8.2. Case Method
- 2.8.3. Positioning and Decision Making

Module 3. People and Talent Management

3.1. Organizational Behavior
- 3.1.1. Organizational Theory
- 3.1.2. Key Factors for Change in Organizations
- 3.1.3. Corporate Strategies, Types, and Knowledge Management

3.2. Strategic People Management
- 3.2.1. People Management and Strategic Alignment
- 3.2.2. Human Resources Strategic Plan: Design and Implementation
- 3.2.3. Job Analysis: Design and Selection of People
- 3.2.4. Training and Professional Development

3.3. Management and Leadership Development
- 3.3.1. Management Skills: 21st Century Skills and Abilities
- 3.3.2. Non-Managerial Skills
- 3.3.3. Map of Skills and Abilities
- 3.3.4. Leadership and People Management

3.4. Change Management
- 3.4.1. Organizational Analysis
- 3.4.2. Strategic Approach
- 3.4.3. Change Management: Key Factors, Process Design and Management
- 3.4.4. Continuous Improvement Approach

3.5. Negotiation and Conflict Management
- 3.5.1. Negotiation Objectives: Differentiating Elements
- 3.5.2. Effective Negotiation Techniques
- 3.5.3. Conflicts: Factors and Types
- 3.5.4. Efficient Conflict Management: Negotiation and Communication

3.6. Executive Communication
- 3.6.1. Corporate Strategy and Management Communication
- 3.6.2. Internal Communication: Influence and Impact
- 3.6.3. Interpersonal Communication: Team Management and Skills

3.7. Team Management and People Performance
- 3.7.1. Multicultural and Multidisciplinary Environment
- 3.7.2. Team and People Management
- 3.7.3. Coaching and People Performance
- 3.7.4. Executive Meetings: Planning and Time Management

3.8. Knowledge and Talent Management
- 3.8.1. Identifying Knowledge and Talent in Organizations
- 3.8.2. Corporate Knowledge and Talent Management Models
- 3.8.3. Creativity and Innovation

Module 4. Economic and Financial Management

4.1. Economic Environment
- 4.1.1. Organizational Theory
- 4.1.2. Key Factors for Change in Organizations
- 4.1.3. Corporate Strategies, Types, and Knowledge Management

4.2. Executive Accounting
- 4.2.1. International Accounting Framework
- 4.2.2. Introduction to the Accounting Cycle
- 4.2.3. Company Financial Statements
- 4.2.4. Analysis of Financial Statements: Decision-Making

4.3. Budget and Management Control
- 4.3.1. Budgetary Planning
- 4.3.2. Management Control: Design and Objectives
- 4.3.3. Supervision and Reporting

4.4. Corporate Tax Responsibility
- 4.4.1. Corporate Tax Responsibility
- 4.4.2. Tax Procedure: Case-Country Approach

4.5. Corporate Control Systems
- 4.5.1. Types of Control
- 4.5.2. Regulatory Compliance
- 4.5.3. Internal Auditing
- 4.5.4. External Auditing

4.6. Financial Management
- 4.6.1. Introduction to Financial Management
- 4.6.2. Financial Management and Corporate Strategy
- 4.6.3. Chief Financial Officer (CFO): Managerial Skills

4.7. Financial Planning
- 4.7.1. Business Models and Financing Needs
- 4.7.2. Financial Analysis Tools
- 4.7.3. Short-Term Financial Planning
- 4.7.4. Long-Term Financial Planning

4.8. Corporate Financial Strategy
- 4.8.1. Corporate Financial Investments
- 4.8.2. Strategic Growth: Types

4.9. Macroeconomic Context
- 4.9.1. Macroeconomic Analysis
- 4.9.2. Economic Indicators
- 4.9.3. Economic Cycle

4.10. Strategic Financing
- 4.10.1. Banking Business: Current Environment
- 4.10.2. Risk Analysis and Management

4.11. Money and Capital Markets
- 4.11.1. Fixed Income Market
- 4.11.2. Equity Market
- 4.11.3. Valuation of Companies

4.12. Analyzing and Solving Cases/Problems
- 4.12.1. Problem Solving Methodology
- 4.12.2. Case Method

Module 5. Operations and Logistics Management

5.1. Operations Management
- 5.1.1. Define the Operations Strategy
- 5.1.2. Supply Chain Planning and Control
- 5.1.3. Indicator Systems

5.2. Purchasing Management
- 5.2.1. Stock Management
- 5.2.2. *Warehouse Management*
- 5.2.3. *Purchasing and Procurement Management*

5.3. Supply Chain Management (I)
- 5.3.1. Costs and Efficiency of the Operations Chain
- 5.3.2. Change in Demand Patterns
- 5.3.3. Change in Operations Strategy

5.4. Supply Chain Management (II). Implementation
- 5.4.1. *Lean Manufacturing/Lean Thinking*
- 5.4.2. Logistics Management
- 5.4.3. Purchasing

5.5. Logistical Processes
- 5.5.1. Organization and Management by Processes
- 5.5.2. Procurement, Production, Distribution
- 5.5.3. Quality, Quality Costs, and Tools
- 5.5.4. After-Sales Service

5.6. Logistics and Customers
- 5.6.1. Demand Analysis and Forecasting
- 5.6.2. Sales Forecasting and Planning
- 5.6.3. *Collaborative Planning, Forecasting, and Replacement*

5.7. International Logistics
- 5.7.1. Customs, Export and Import Processes
- 5.7.2. Methods and Means of International Payment
- 5.7.3. International Logistics Platforms

5.8. Competing through Operations
- 5.8.1. Innovation in Operations as a Competitive Advantage in the Company
- 5.8.2. Emerging Technologies and Sciences
- 5.8.3. Information Systems in Operations

Module 6. Information Systems Management

6.1. Information Systems Management
- 6.1.1. Business Information Systems
- 6.1.2. Strategic Decisions
- 6.1.3. The Role of the CIO

6.2. Information Technology and Business Strategy
- 6.2.1. Company and Industry Sector Analysis
- 6.2.2. Online Business Models
- 6.2.3. The Value of IT in a Company

6.3. IS Strategic Planning
- 6.3.1. The Process of Strategic Planning
- 6.3.2. Formulating the IS Strategy
- 6.3.3. Strategy Implementation Plan

6.4. Information Systems and Business Intelligence
- 6.4.1. CRM and Business Intelligence
- 6.4.2. Business Intelligence Project Management
- 6.4.3. Business Intelligence Architecture

6.5. New ICT-Based Business Models
- 6.5.1. Technology-Based Business Models
- 6.5.2. Innovation Abilities
- 6.5.3. Redesigning the Value Chain Processes

6.6. E-Commerce
- 6.6.1. E-Commerce Strategic Plan
- 6.6.2. Logistics Management and Customer Service in E-Commerce
- 6.6.3. E-Commerce as an Opportunity for Internationalization

6.7. E-Business Strategies
- 6.7.1. Social Media Strategies
- 6.7.2. Optimizing Service Channels and Customer Support
- 6.7.3. Digital Regulation

6.8. *Digital Business*
- 6.8.1. *Mobile E-Commerce*
- 6.8.2. Design and Usability
- 6.8.3. E-Commerce Operations

Module 7. Commercial Management, Marketing, and Corporate Communications

7.1. Commercial Management
- 7.1.1. Sales Management
- 7.1.2. Commercial Strategy
- 7.1.3. Sales and Negotiation Techniques
- 7.1.4. Management of Sales Teams

7.2. Marketing
- 7.2.1. Marketing and the Impact on the Company
- 7.2.2. Basic Marketing Variables
- 7.2.3. Marketing Plan

7.3. Strategic Marketing Management
- 7.3.1. Current Trends in Marketing
- 7.3.2. Marketing Tools
- 7.3.3. Marketing Strategy and Communication with Customers

7.4. Digital Marketing Strategy
- 7.4.1. Approach to Digital Marketing
- 7.4.2. Digital Marketing Tools
- 7.4.3. Inbound Marketing and the Evolution of Digital Marketing

7.5. Sales and Communication Strategy
- 7.5.1. Positioning and Promotion
- 7.5.2. Public Relations
- 7.5.3. Sales and Communication Strategy

7.6. Corporate Communication
- 7.6.1. Internal and External Communication
- 7.6.2. Communication Departments
- 7.6.3. Communication Managers: Managerial Skills and Responsibilities

7.7. Corporate Communication Strategy
- 7.7.1. Corporate Communication Strategy
- 7.7.2. Communication Plan
- 7.7.3. Press Release/Clipping/Publicity Writing

Module 8. Innovation and Project Management

8.1. Innovation
- 8.1.1. Macro Concept of Innovation
- 8.1.2. Types of Innovation
- 8.1.3. Continuous and Discontinuous Innovation
- 8.1.4. Training and Innovation

8.2. Innovation Strategy
- 8.2.1. Innovation and Corporate Strategy
- 8.2.2. Global Innovation Project: Design and Management
- 8.2.3. Innovation Workshops

8.3. Business Model Design and Validation
- 8.3.1. The Lean Start-Up Methodology
- 8.3.2. *Innovative Business Initiative: Stages*
- 8.3.3. *Financing Arrangements*
- 8.3.4. Model Tools: Empathy Map, Canvas Model, and Metrics
- 8.3.5. Growth and Loyalty

8.4. Project Management
- 8.4.1. Innovation Opportunities
- 8.4.2. Feasibility Study and Proposal Specification
- 8.4.3. Project Definition and Design
- 8.4.4. Project Execution
- 8.4.5. Project Closure

Module 9. Physical Fundamentals of Computing

9.1. Fundamental Forces
- 9.1.1. Newton's Second Law

9.1.2. The Fundamental Forces of Nature
- 9.1.3. Gravitational Force
- 9.1.4. The Electric Force

9.2. Conservation Laws
- 9.2.1. What is Mass?
- 9.2.2. The Electric Charge
- 9.2.3. The Millikan Experiment
- 9.2.4. Conservation of Linear Momentum

9.3. Energy
- 9.3.1. What is Energy?
- 9.3.2. Measuring Energy
- 9.3.3. Energy Types
- 9.3.4. Dependence on the Observer's Energy
- 9.3.5. Potential Energy
- 9.3.6. Derivation of Potential Energy
- 9.3.7. Energy Conservation
- 9.3.8. Energy Units

9.4. Electric Field
- 9.4.1. Static Electricity
- 9.4.2. Electric Field
- 9.4.3. Capacity
- 9.4.4. Potential

9.5. Electrical Circuits
- 9.5.1. Circulation of Electric Charge
- 9.5.2. Batteries
- 9.5.3. Alternating Current

9.6. Magnetism
- 9.6.1. Introduction and Magnetic Materials
- 9.6.2. Magnetic Field
- 9.6.3. Electromagnetic Introduction

9.7. Electromagnetic Spectrum
- 9.7.1. Maxwell's Equations
- 9.7.2. Optics and Electromagnetic Waves
- 9.7.3. The Michelson Morley Experiment

9.8. The Atom and Subatomic Particles
- 9.8.1. The Atom
- 9.8.2. The Atomic Nucleus
- 9.8.3. Radioactivity

9.9. Quantum Physics
- 9.9.1. Color and Heat
- 9.9.2. Photoelectric Effect
- 9.9.3. Matter Waves
- 9.9.4. Nature as Probability

9.10. Relativity
- 9.10.1. Gravity, Space and Time
- 9.10.2. Lorentz Transformations
- 9.10.3. Speed and Time
- 9.10.4. Energy, Momentum and Mass

Module 10. Computer Technology

10.1. General Information and a Brief History of Computers
- 10.1.1. Organization and Architecture
- 10.1.2. Brief History of Computers

10.2. Computer Arithmetic
- 10.2.1. The Arithmetic-Logic Unit
- 10.2.2. Numbering Systems
- 10.2.3. Integer Representation
- 10.2.4. Arithmetic with Integers
- 10.2.5. Floating Point Representation
- 10.2.6. Floating Point Arithmetic

10.3. Classic Concepts of Logic Design
- 10.3.1. Boolean Algebra
- 10.3.2. Logic Gates
- 10.3.3. Logical Simplification
- 10.3.4. Combinational Circuits
- 10.3.5. Sequential Circuits
- 10.3.6. Concept of Sequential Machine
- 10.3.7. Memory Element
- 10.3.8. Types of Memory Elements
- 10.3.9. Synthesis of Sequential Circuits
- 10.3.10. Synthesis of Sequential Circuits with PLA

10.4. Basic Computer Organization and Operation
- 10.4.1. Introduction
- 10.4.2. Components of a Computer
- 10.4.3. Operation of a Computer
- 10.4.4. Interconnection Structures
- 10.4.5. Interconnection with Buses
- 10.4.6. PCI Bus

10.5. Internal Memory
- 10.5.1. Introduction to Memory Systems in Computers
- 10.5.2. Semiconductor Main Memory
- 10.5.3. Correction of Errors
- 10.5.4. Advanced DRAM Memory Organization

10.6. Input/Output
- 10.6.1. External Devices
- 10.6.2. Input/Output Modules
- 10.6.3. Scheduled Input/Output
- 10.6.4. Input/Output via Interrupts
- 10.6.5. Direct Memory Access
- 10.6.6. Input/Output Channels and Processors

10.7. Machine Instructions: Features and Functions
- 10.7.1. Characteristics of Machine Instructions
- 10.7.2. Types of Operands
- 10.7.3. Types of Transactions
- 10.7.4. Assembly Language
- 10.7.5. Address
- 10.7.6. Formats of Instructions

10.8. Processor Structure and Operation
- 10.8.1. Processor Organization
- 10.8.2. Record Organization
- 10.8.3. Training Cycle
- 10.8.4. Instruction Segmentation

10.9. Cache and External Memory
- 10.9.1. Basic Principles of Cache Memories
- 10.9.2. Cache Design Elements
- 10.9.3. Magnetic Disks
- 10.9.4. RAID
- 10.9.5. Optical Memory
- 10.9.6. Magnetic Tape

10.10. Introduction to the Operation of the Control Unit
- 10.10.1. Microoperations
- 10.10.2. Processor Control
- 10.10.3. Wired Implementation

Module 11. The Structure of Computers

11.1. Fundamentals of Computer Design and Evolution
- 11.1.1. Definition of Computer Architecture
- 11.1.2. Evolution and Performance of Architectures
- 11.1.3. Parallel Architectures and Levels of Parallelism

11.2. Computer Performance Evaluation
- 11.2.1. Performance Measures
- 11.2.2. Test Programs (Benchmarks)
- 11.2.3. Improved Performance
- 11.2.4. Costs of a Computer

11.3. Leveraging the Memory Hierarchy
- 11.3.1. Memory Hierarchy
- 11.3.2. Basic Concepts of the Cache
- 11.3.3. Cache Evaluation and Improvements
- 11.3.4. Virtual Memory

11.4. Storage and Other Input/Output Aspects
- 11.4.1. Reliability, Dependability and Availability
- 11.4.2. Disk Storage
- 11.4.3. Flash Storage
- 11.4.4. Connection and Information Transfer Systems

11.5. Segmented Processors
- 11.5.1. What are Segmented Processors?
- 11.5.2. Principles of Segmentation and Performance Enhancement
- 11.5.3. Segmented Processor Design
- 11.5.4. Optimization of Functional Channels
- 11.5.5. Interrupt Handling on a Segmented Processor

11.6. Superscalar Processors
- 11.6.1. What are Superscalar Processors?
- 11.6.2. Parallelism between Instructions and Machine Parallelism
- 11.6.3. Superscalar Instruction Processing
- 11.6.4. Jump Instruction Processing
- 11.6.5. Interrupt Handling on a Superscalar Processor

11.7. VLIW Processors
- 11.7.1. What are VLIW Processors?
- 11.7.2. Exploiting Parallelism in VLIW Architectures
- 11.7.3. Compiler Support Resources

11.8. Vector Processors
- 11.8.1. What are Vector Processors?
- 11.8.2. Vector Architecture
- 11.8.3. The Memory System in Vector Processors
- 11.8.4. Performance Measurements on Vector Processors
- 11.8.5. Vector Processing Efficiency

11.9. Parallel Computers
- 11.9.1. Parallel Architectures and Levels of Parallelism
- 11.9.2. Motivation to the Study of Parallel Computers
- 11.9.3. Design Space. Classification and General Structure
- 11.9.4. Performance on Parallel Computers
- 11.9.5. Classification of Communication Systems in Parallel Computers
- 11.9.6. General Structure of the Communication System in Parallel Computers
- 11.9.7. The Network Interface in Parallel Computers
- 11.9.8. The Interconnection Network in Parallel Computers
- 11.9.9. Communication System Performance on Parallel Computers

11.10. Interconnection Networks and Multiprocessors
- 11.10.1. Topology and Types of Interconnection Networks
- 11.10.2. Switching in Interconnection Networks
- 11.10.3. Flow Control in Interconnection Networks
- 11.10.4. Routing in Interconnection Networks
- 11.10.5. Memory System Coherence on Multiprocessors
- 11.10.6. Multiprocessor Memory Consistency
- 11.10.7. Multiprocessor Synchronization

Module 12. Operating Systems

12.1. Introduction to Operating Systems
- 12.1.1. Concept
- 12.1.2. Historical Recap
- 12.1.3. Fundamental Building Blocks of Operating Systems
- 12.1.4. Objectives and Functions of Operating Systems

12.2. Structure of Operating Systems
- 12.2.1. Operating System Services
- 12.2.2. Operating System User Interface
- 12.2.3. System Calls
- 12.2.4. Types of System Calls

12.3. Process Planning
- 12.3.1. Basic Concepts
- 12.3.2. Planning Criteria
- 12.3.3. Planning Algorithms

12.4. Processes and Threads
- 12.4.1. Process Concept
- 12.4.2. Thread Concept
- 12.4.3. Process Status
- 12.4.4. Process Control

12.5. Concurrence. Mutual Exclusion, Synchronization, and Interlocking
- 12.5.1. Principles of Concurrence
- 12.5.2. Mutual Exclusion
- 12.5.3. Traffic Lights
- 12.5.4. Monitors
- 12.5.5. Message Passing
- 12.5.6. Fundamentals of Interlocking
- 12.5.7. Interlock Prevention
- 12.5.8. Interlock Avoidance
- 12.5.9. Interlock Detection and Recovery

12.6. Memory Management
- 12.6.1. Memory Management Requirements
- 12.6.2. Process Memory Model
- 12.6.3. Contiguous Assignment Scheme
- 12.6.4. Segmentation
- 12.6.5. Pagination
- 12.6.6. Segmented Pagination

12.7. Virtual Memory
- 12.7.1. Virtual Memory Fundamentals
- 12.7.2. Life Cycle of a Page
- 12.7.3. Virtual Memory Management Policy
- 12.7.4. Localization Policy
- 12.7.5. Extraction Policy
- 12.7.6. Replacement Policy

12.8. Input/Output System
- 12.8.1. Input/Output Devices
- 12.8.2. Input/Output System Organization
- 12.8.3. Use of Buffers
- 12.8.4. Magnetic Disk

12.9. File System Interface and Implementation
- 12.9.1. Archiving Concept
- 12.9.2. Access Methods
- 12.9.3. Directory Structure
- 12.9.4. Structure of a File System
- 12.9.5. File System Interface and Implementation
- 12.9.6. Directories System Interface and Implementation
- 12.9.7. Allocation Methods
- 12.9.8. Management of Free Space

12.10. Protection
- 12.10.1. Objectives
- 12.10.2. Authentication
- 12.10.3. Authorization
- 12.10.4. Cryptography

Module 13. Advanced Operating System

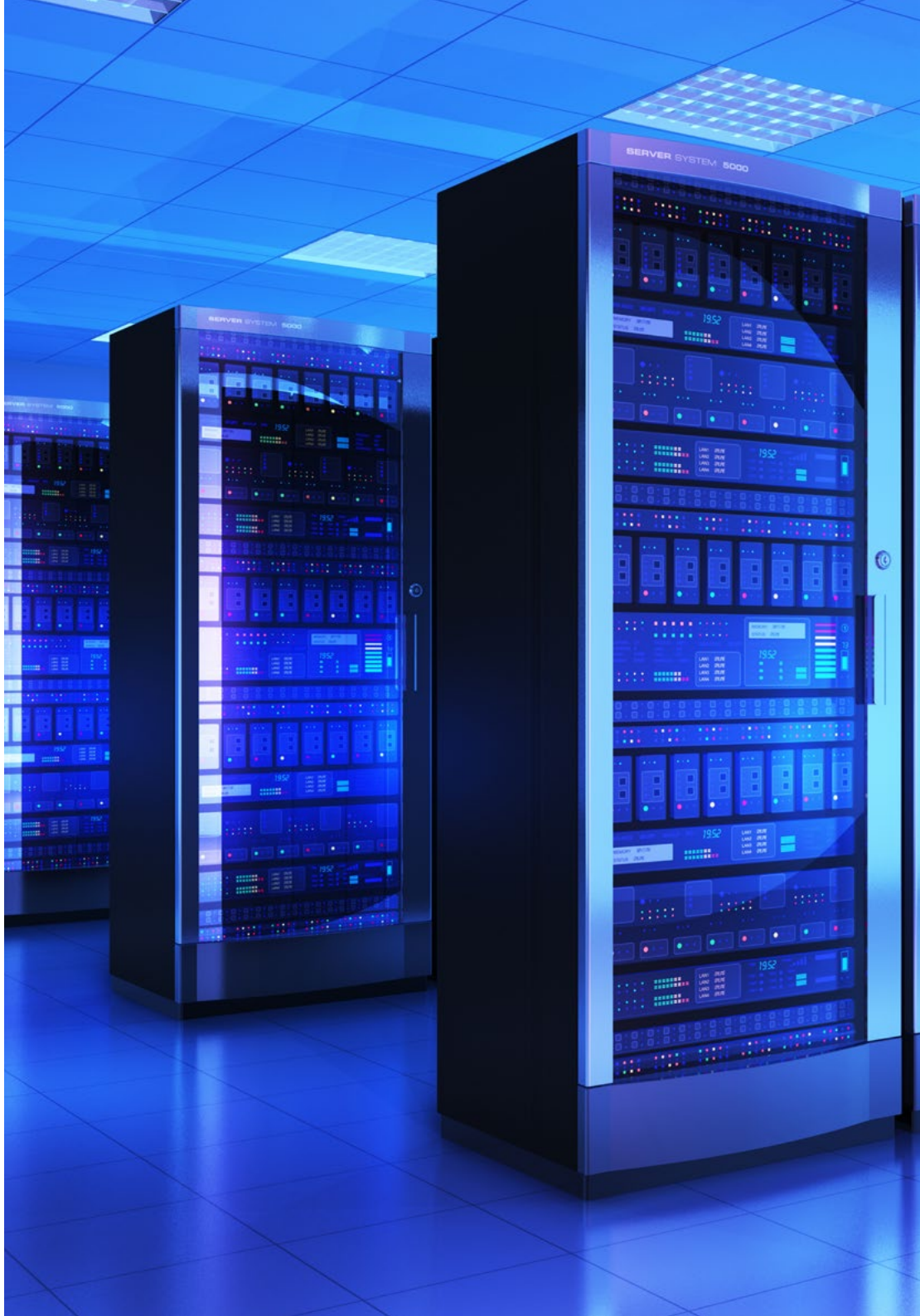
13.1. Concept of System Operations
- 13.1.1. Operating System Functions
- 13.1.2. Process Management
- 13.1.3. Memory Management
- 13.1.4. Directory and File Management
- 13.1.5. The Shell: Interactivity
- 13.1.6. Security
- 13.1.7. Design Objectives

13.2. History of Operating Systems
- 13.2.1. First Generation
- 13.2.2. Second Generation
- 13.2.3. Third Generation
- 13.2.4. Fourth Generation
- 13.2.5. The OS/2 Case
- 13.2.6. The History of GNU/Linux
- 13.2.7. The History of Windows

13.3. Structure of an Operating System
- 13.3.1. Monolithic Systems
- 13.3.2. Layered Systems
- 13.3.3. Virtualization
- 13.3.4. *Exokernel*
- 13.3.5. *Client-Server Model*
- 13.3.6. *Distributed Systems*

13.4. System Calls
- 13.4.1. System Calls. Concepts
- 13.4.2. System Calls for Process Management
- 13.4.3. System Calls for File and Directory Administration
- 13.4.4. Calls to the Communication System

13.5. Windows and GNU/Linux
- 13.5.1. Windows Structure
- 13.5.2. Structure of GNU/Linux



13.6. The GNU/Linux Shell and PowerShell
- 13.6.1. The Command Interpreter
- 13.6.2. Using the Command Interpreter
- 13.6.3. GNU/Linux Commands
- 13.6.4. Basic PowerShell Syntax
- 13.6.5. Basic PowerShell Commands

13.7. Shell Programming
- 13.7.1. Scripts Programming
- 13.7.2. *Syntax*

13.8. System Programming in GNU/Linux
- 13.8.1. C Language under UNIX
- 13.8.2. Compilation Tools
- 13.8.3. Error Handling

13.9. System Calls on Files
- 13.9.1. Basic Calls
- 13.9.2. Calls on Directories
- 13.9.3. Advanced Calls

13.10. System Calls on Processes
- 13.10.1. Basic Calls
- 13.10.2. Signals
- 13.10.3. Pipelines

Module 14. Free Software and Open Knowledge

14.1. Introduction to Free Software
- 14.1.1. History of Free Software
- 14.1.2. "Freedom" in Software
- 14.1.3. Licenses for the Use of Software Tools
- 14.1.4. Intellectual Property of Software
- 14.1.5. What is the Motivation for Using Free Software?
- 14.1.6. Free Software Myths
- 14.1.7. Top500

14.2. Open Knowledge and CC Licenses
- 14.2.1. Basic Concepts
- 14.2.2. Creative Commons Licenses
- 14.2.3. Other Content Licenses
- 14.2.4. Wikipedia and Other Open Knowledge Projects

14.3. Main Free Software Tools
- 14.3.1. Operating Systems
- 14.3.2. Office Applications
- 14.3.3. Business Management Applications
- 14.3.4. Web Content Managers
- 14.3.5. Multimedia Content Creation Tools
- 14.3.6. Other Applications

14.4. The Company: Free Software and its Costs
- 14.4.1. Free Software: Yes or No?
- 14.4.2. Truths and Lies about Free Software
- 14.4.3. Business Software Based on Free Software
- 14.4.4. Software Costs
- 14.4.5. Free Software Models

14.5. The GNU/Linux Operating System
- 14.5.1. Architecture
- 14.5.2. Basic Directory Structure
- 14.5.3. File System Characteristics and Structure
- 14.5.4. Internal Representation of the Files

14.6. The Android Mobile Operating System
- 14.6.1. History
- 14.6.2. Architecture
- 14.6.3. Android Forks
- 14.6.4. Introduction to Android Development
- 14.6.5. Frameworks for Mobile Application Development

14.7. Website Creation with WordPress
- 14.7.1. WordPress Features and Structure
- 14.7.2. Creation of wordpress.com Sites
- 14.7.3. Installation and Configuration of WordPress on Your Own Server
- 14.7.4. Installing Plugins and Expansion of WordPress

14.7.5. Creation of WordPress Plugins
14.7.6. WordPress Theme Creation
14.8. Free Software Trends
14.8.1. Cloud Environments
14.8.2. Monitoring Tools
14.8.3. Operating Systems
14.8.4. Big Data and Open Data 2.0
14.8.5. Quantum Computing
14.9. Version Control
14.9.1. Basic Concepts
14.9.2. *Git*
14.9.3. Cloud and Self-Hosted Git Services
14.9.4. Other Version Control Systems
14.10. Custom GNU/Linux Distributions
14.10.1. Main Distributions
14.10.2. Distributions Derived from Debian
14.10.3. Deb Package Creation
14.10.4. Modification of the Distribution
14.10.5. ISO Image Generation

Module 15. Computer Networks

15.1. Computer Networks on the Internet
15.1.1. Networks and Internet
15.1.2. Protocol Architecture
15.2. The Application Layer
15.2.1. Model and Protocols
15.2.2. FTP and SMTP Services
15.2.3. DNS Service
15.2.4. HTTP Operation Model
15.2.5. HTTP Message Formats
15.2.6. Interaction with Advanced Methods
15.3. The Transport Layer
15.3.1. Communication Between Processes
15.3.2. Connection-Oriented Transportation: TCP and SCTP
15.4. The Network Layer
15.4.1. Circuit and Packet Switching
15.4.2. IP Protocol (v4 and v6)
15.4.3. Routing Algorithms
15.5. The Link Layer
15.5.1. Link Layer and Error Detection and Correction Techniques
15.5.2. Multiple Access Links and Protocols
15.5.3. Link Level Addressing
15.6. LAN Networks
15.6.1. Network Topologies
15.6.2. Network and Interconnection Elements
15.7. IP Addressing
15.7.1. IP Addressing and Subnetting
15.7.2. *Overview: An HTTP Request*
15.8. Wireless and Mobile Networks
15.8.1. 2G, 3G and 4G Mobile Networks and Services
15.8.2. 5G Networks
15.9. Network Security
15.9.1. Fundamentals of Communications Security
15.9.2. Access Control
15.9.3. System Security
15.9.4. Fundamentals of Cryptography
15.9.5. Digital Signature
15.10. Internet Security Protocols
15.10.1. IP Security and Virtual Private Networks (VPN)
15.10.2. Web Security with SSL/TLS

Module 16. Emerging Technologies

16.1. Mobile Technologies
- 16.1.1. Mobile Devices
- 16.1.2. Mobile Communications

16.2. Mobile Services
- 16.2.1. Types of Applications
- 16.2.2. Decision on the Type of Mobile Application
- 16.2.3. Mobile Interaction Design

16.3. Location-Based Services
- 16.3.1. Location-Based Services
- 16.3.2. Technologies for Mobile Localization
- 16.3.3. GNSS-based Localization
- 16.3.4. Accuracy and Accuracy in Localization Technologies
- 16.3.5. Beacons: Location by Proximity

16.4. User Experience (UX) Design
- 16.4.1. Introduction to User Experience (UX)
- 16.4.2. Technologies for Mobile Localization
- 16.4.3. Methodology for UX Design
- 16.4.4. Best Practices in the Prototyping Process

16.5. Extended Reality
- 16.5.1. Extended Reality Concepts
- 16.5.2. Technologies for Mobile Localization
- 16.5.3. AR and VR Application and Services

16.6. Internet of Things (IoT). (I)
- 16.6.1. IoT Fundamentals
- 16.6.2. IoT Devices and Communications

16.7. Internet of Things (IoT). (II)
- 16.7.1. Beyond Cloud Computing
- 16.7.2. Smart Cities
- 16.7.3. Digital Twins
- 16.7.4. IoT Projects

16.8. *Blockchain*
- 16.8.1. Blockchain Fundamentals
- 16.8.2. Blockchain-Based Applications and Services

16.9. Autonomous Driving
- 16.9.1. Technologies for Autonomous Driving
- 16.9.2. V2X Communications

16.10. Innovative Technology and Research
- 16.10.1. Fundamentals of Quantum Computing
- 16.10.2. Applications of Quantum Computing
- 16.10.3. Introduction to Research

Module 17. Information Systems Security

17.1. A global Perspective on Security, Cryptography and Classical Cryptanalysis
- 17.1.1. Computer Security: Historical Perspective
- 17.1.2. But What Exactly is Meant by Security?
- 17.1.3. History of Cryptography
- 17.1.4. Substitution Ciphers
- 17.1.5. Case Study: The Enigma Machine

17.2. Symmetric Cryptography
- 17.2.1. Introduction and Basic Terminology.
- 17.2.2. Symmetric Encryption
- 17.2.3. Modes of Operation
- 17.2.4. DES
- 17.2.5. The New AES Standard
- 17.2.6. Encryption in Flow
- 17.2.7. Cryptanalysis

17.3. Asymmetric Cryptography
- 17.3.1. Origins of Public Key Cryptography
- 17.3.2. Basic Concepts and Operation
- 17.3.3. The RSA Algorithm
- 17.3.4. Digital Certificates
- 17.3.5. Key Storage and Management

17.4. Network Attacks
- 17.4.1. Network Threats and Attacks
- 17.4.2. Enumeration
- 17.4.3. Traffic Interception: *Sniffers*
- 17.4.4. Denial of Service Attacks
- 17.4.5. ARP Poisoning Attacks

17.5. Security Architectures
- 17.5.1. Traditional Security Architectures
- 17.5.2. *Secure Socket Layer: SSL*
- 17.5.3. *SSH Protocol*
- 17.5.4. Virtual Private Networks (VPNs)
- 17.5.5. External Storage Unit Protection Mechanisms
- 17.5.6. Hardware Protection Mechanisms

17.6. System Protection Techniques and Secure Code Development
- 17.6.1. Operational Safety
- 17.6.2. Resources and Controls
- 17.6.3. Monitoring
- 17.6.4. Intrusion Detection Systems
- 17.6.5. *Host IDS*
- 17.6.6. *Network IDS*
- 17.6.7. *Signature-Based IDS*
- 17.6.8. Lure Systems
- 17.6.9. Basic Security Principles in Code Development
- 17.6.10. Failure Management
- 17.6.11. Public Enemy Number 1: Buffer Overflows
- 17.6.12. Cryptographic Botches

17.7. *Botnets and Spam*
- 17.7.1. Origin of the Problem
- 17.7.2. Spam Process
- 17.7.3. Sending Spam
- 17.7.4. Refinement of Mailing Lists
- 17.7.5. Protection Techniques
- 17.7.6. Anti-Spam Service offered by Third-Parties
- 17.7.7. Study Cases
- 17.7.8. Exotic Spam

17.8. Web Auditing and Attacks
- 17.8.1. Information Gathering
- 17.8.2. Attack Techniques
- 17.8.3. Tools

17.9. Malware and Malicious Code
- 17.9.1. What is Malware?
- 17.9.2. Types of Malware
- 17.9.3. Virus
- 17.9.4. *Criptovirus*
- 17.9.5. *Worms*
- 17.9.6. *Adware*
- 17.9.7. *Spyware*
- 17.9.8. *Hoaxes*
- 17.9.9. *Phishing*
- 17.9.10. *Trojans*
- 17.9.11. *The Economy of Malware*
- 17.9.12. *Possible Solutions*

17.10. Forensic Analysis
- 17.10.1. Evidence Collection
- 17.10.2. Evidence Analysis
- 17.10.3. Anti-Forensic Techniques
- 17.10.4. Case Study

Module 18. Integration Systems

18.1. Introduction to Information Systems in the Enterprise
- 18.1.1. The Role of Information Systems
- 18.1.2. What is an Information System?
- 18.1.3. Dimensions of Information Systems
- 18.1.4. Business Processes and Information Systems
- 18.1.5. IS/IT Department

18.2. Opportunities and Needs of Information Systems in the Enterprise
- 18.2.1. Organizations and Information Systems
- 18.2.2. Features of Organizations
- 18.2.3. Impact of Information Systems in the Enterprise
- 18.2.4. Information Systems to Achieve a Competitive Advantage
- 18.2.5. Use of Systems in the Administration and Management of the Enterprise

18.3. Basic Concepts of Information Systems and Technologies
- 18.3.1. Data, Information and Knowledge
- 18.3.2. Technology and Information Systems
- 18.3.3. Technology Components
- 18.3.4. Classification and Types of Information Systems
- 18.3.5. Service and Business Process Based Architectures
- 18.3.6. Forms of Systems Integration

18.4. Systems for the Integrated Enterprise Resource Planning
- 18.4.1. Business Needs
- 18.4.2. An Integrated Enterprise Resource Planning
- 18.4.3. Acquisition vs. Development
- 18.4.4. ERP Implementation
- 18.4.5. Implications for Management
- 18.4.6. Leading ERP Vendors

18.5. Supply Chain and Customer Relationship Management Information Systems
- 18.5.1. Definition of Supply Chain
- 18.5.2. Effective Supply Chain Management
- 18.5.3. The Role of Information Systems
- 18.5.4. Supply Chain Management Solutions
- 18.5.5. Customer Relationship Management
- 18.5.6. The Role of Information Systems
- 18.5.7. Implementation of a CRM System
- 18.5.8. Critical Success Factors in CRM Implementation
- 18.5.9. CRM, e-CRM and Other Trends

18.6. ICT Investment Decision-Making and Information Systems Planning
- 18.6.1. Criteria for ICT Investment Decisions
- 18.6.2. Linking the Project to the Management and Business Plan
- 18.6.3. Management Implications
- 18.6.4. Redesign of Business Processes
- 18.6.5. Management's Decision on Implementation Methodologies
- 18.6.6. Need for Information Systems Planning
- 18.6.7. Objectives, Participants and Moments
- 18.6.8. Structure and Development of the Systems Planning
- 18.6.9. Follow-up and Updating

18.7. Security Considerations in the Use of ICTs
- 18.7.1. Risk Analysis
- 18.7.2. Security in Information Systems
- 18.7.3. Practical Advice

18.8. Feasibility of ICT Project Implementation and Financial Aspects in Information Systems Projects
- 18.8.1. Description and Objectives
- 18.8.2. EVS Participants
- 18.8.3. Techniques and Procedures
- 18.8.4. Cost Structure
- 18.8.5. Financial Projection
- 18.8.6. Budgets

18.9. *Business Intelligence*
- 18.9.1. What is Business Intelligence?
- 18.9.2. BI Implementation Strategy
- 18.9.3. Present and Future in BI

18.10. ISO/IEC 12207
- 18.10.1. What is "ISO/IEC 12207"?
- 18.10.2. Analysis of Information Systems
- 18.10.3. Information System Design
- 18.10.4. Implementation and Acceptance of the Information System

04

Teaching Objectives

This program has a teaching team of experts in Computer Science and Business Management, with extensive experience in these fields. Throughout the academic itinerary, they will provide advice to students, resolving doubts and facilitating learning. In addition, teachers will emphasize the importance of developing key skills to boost students' professional careers, delving into innovative content designed to meet the demands of today's work environment.

Transform your career with an innovative Advanced Master's Degree that will redefine your path in information systems management"

General Objectives

- Define the latest trends in business management, taking into account the globalized environment that governs senior management criteria
- Develop the key leadership skills that should define working professionals
- Train the professional in computer systems with a versatile program, adapted to new technologies and innovations
- Provide tools to develop in Information Systems Management

Enter into the top management of information systems with an Advanced Master's Degree designed to transform your professional career"

Specific Objectives

Module 1. Leadership, Ethics, and CSR

- Develop the necessary skills to lead in an ethical and responsible manner
- Integrate corporate social responsibility principles into the organization's strategic and operational decisions to contribute to social and environmental well-being

Module 2. Strategic Direction and Executive Management

- Train in the formulation and execution of business strategies at the managerial level
- Delve into decision making, organizational competitiveness and the alignment of strategic objectives with the vision and mission of the company

Module 3. People and Talent Management

- Provide the knowledge and tools necessary to efficiently manage human resources in the company
- Delve into the attraction, development, motivation and retention of talent, in order to improve organizational performance

Module 4. Economic and Financial Management

- Provide the knowledge necessary to manage the economic and financial aspects of an organization
- Optimize resources and making informed decisions to improve profitability and long-term sustainability

Module 5. Operations and Logistics Management

- Analyze the efficient management of operations and the supply chain
- Improve productivity, reducing costs and ensuring quality in the delivery of products and services within the established deadlines

Module 6. Information Systems Management

- Develop the skills necessary to manage information systems within an organization
- Ensure the efficiency, security and integration of technologies to support business objectives

Module 7. Commercial Management, Marketing, and Corporate Communications

- Train in the creation and implementation of commercial, marketing and communication strategies that strengthen the company's presence in the market
- Increase sales and generate a solid and coherent brand image

Module 8. Innovation and Project Management

- Encourage the development of innovative projects within organizations
- Delve into the planning, execution and management of projects with a focus on innovation as a key driver for business competitiveness

Module 9. Physical Fundamentals of Computing

- Provide essential knowledge of the physical principles that underlie computing
- Address the study of electronic devices and circuits, to understand their operation and the basis of today's computing technologies

Module 10. Computer Technology

- Provide a comprehensive understanding of the technology that drives computers
- Examine hardware components, their interactions, and how they are used to perform information processing and storage operations

Module 11. The Structure of Computers

- Train in the fundamental components and structures of computers, such as the processor, memory, and input and output devices
- Learn in depth how they work and how they interact to perform computing tasks

Module 12. Operating Systems

- Develop a thorough understanding of operating systems, their main functions
- Analyze how they manage system resources, providing the tools necessary to install, configure, and maintain these systems in diverse computing environments

Module 13. Advanced Operating Systems

- Train in the handling of advanced operating systems, including their configuration, process management, networking and security
- Delve into performance optimization and resolution of complex problems in server environments and large infrastructures

Module 14. Free Software and Open Knowledge

- Promote the knowledge and use of free software and open knowledge philosophies
- Analyze its implementation in business environments and collaboration in community and open source projects

Module 15. Computer Networks

- Provide the knowledge and skills necessary to design, implement and manage computer networks
- Understand their architecture, communication protocols and network optimization and security techniques

Module 16. Emerging Technologies

- Train in the analysis and application of emerging technologies in the field of informatics, such as artificial intelligence, big data and cloud computing
- Explore their potential impact on organizations and society

Module 17. Information Systems Security

- Provide the necessary knowledge to implement security strategies in information systems, protecting data and technological infrastructures against cyber threats
- Ensure the confidentiality, integrity and availability of information

Module 18. Integration Systems

- Develop skills in the integration of disparate IT systems within an organization
- Ensure interoperability and efficiency through the use of architectures and platforms that facilitate communication between different technological components

05

Career Opportunities

Upon completion of this Advanced Master's Degree, professionals will gain a solid understanding of the most effective technological strategies for managing information systems in business environments. At the same time, graduates will design and implement integrated solutions, such as ERP systems or Business Intelligence projects, that optimize productivity and promote innovation. In this way, experts will enhance their career prospects and take on specialized roles as Chief Information Officer (CIO).

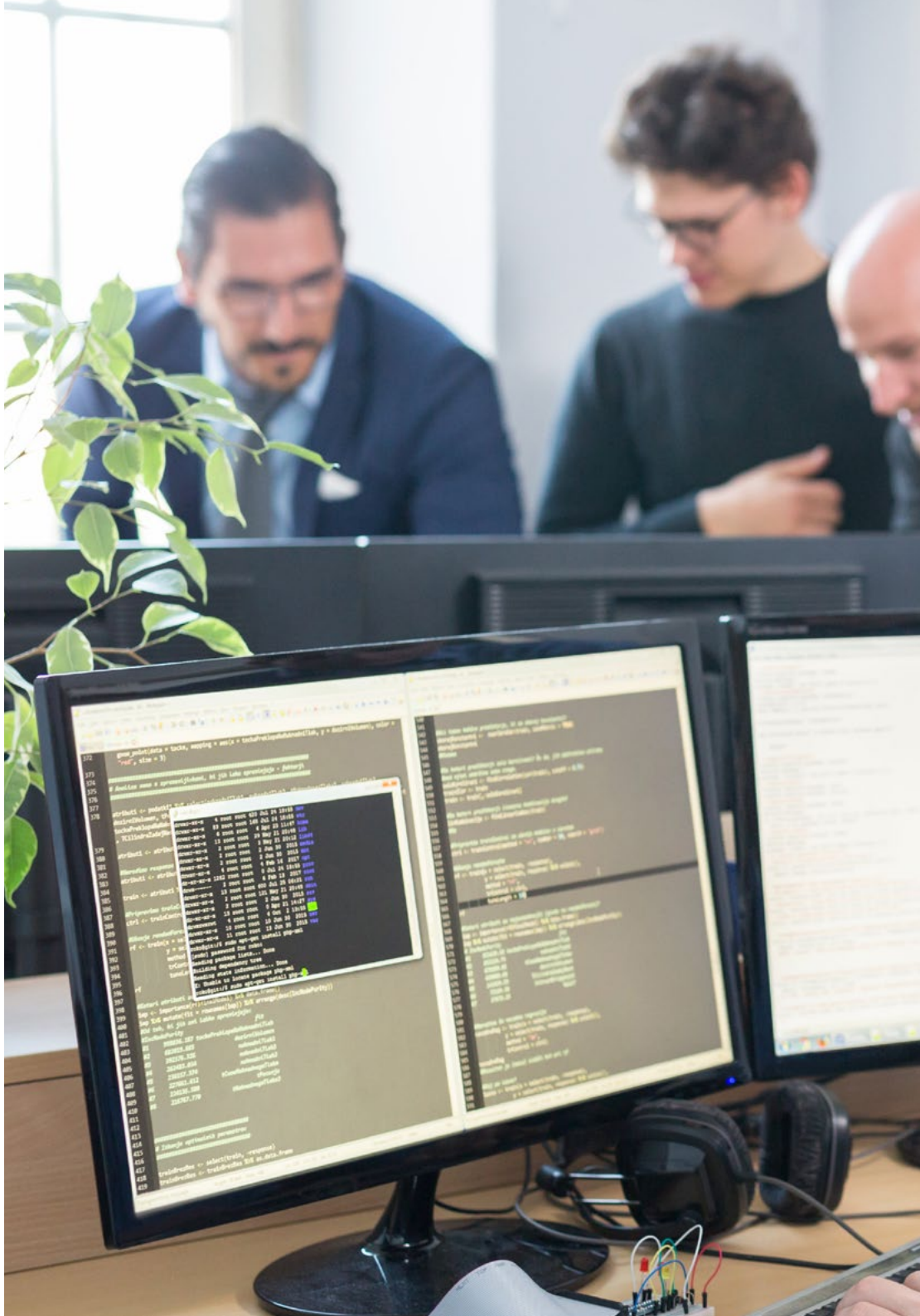
You will apply data-driven approaches to transform business processes and improve strategic decision making”

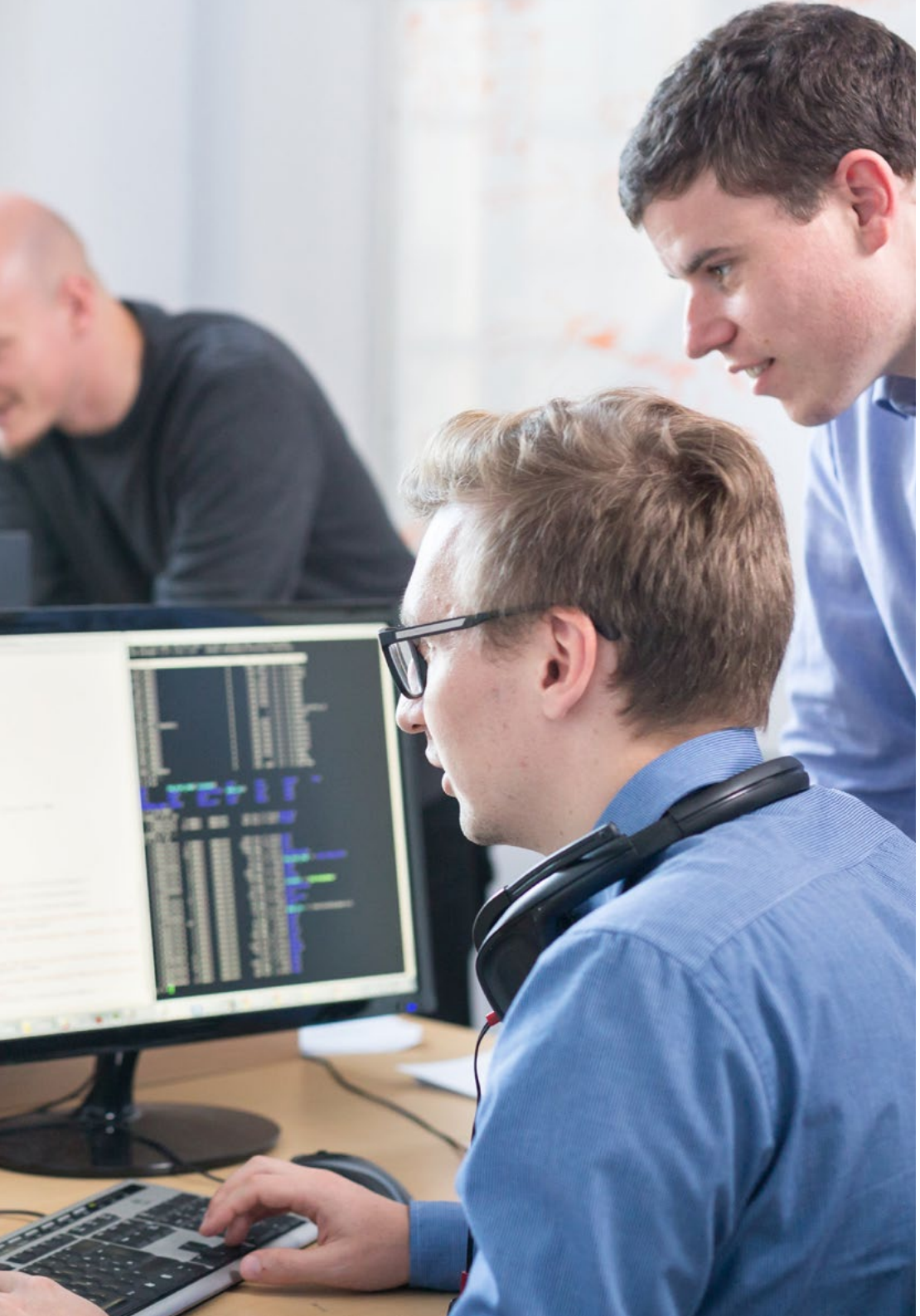
Graduate Profile

Graduates of the Advanced Master's Degree in Information Systems Management will be highly qualified to lead the digital transformation of companies. They will have a deep knowledge of the strategic management of information technologies, innovative methodologies and advanced technological tools necessary to optimize processes and promote business growth. In addition, you will be prepared to design and implement customized technology plans, collaborate with multidisciplinary teams and act as a mediator between operational and IT areas, promoting efficient and sustainable business development.

You will combine theoretical knowledge and practical skills in emerging technologies, strategic management and digital implementation.

- **Effective Communication:** Leaders will develop skills to convey complex ideas clearly and effectively, adapting their language to different audiences and organizational levels
- **Strategic and Time Management:** Ability to lead technology projects, manage resources and resolve conflicts in dynamic environments
- **Critical Thinking and Problem Solving:** Apply critical analysis to identify business needs, generate technology solutions and make informed decisions
- **Digital Competence:** Advanced handling of digital tools, from Business Intelligence platforms to cybersecurity solutions and emerging technologies





After completing the Advanced Master's Degree, you will be able to apply your knowledge and skills in the following positions:

1. Chief Information Officer (CIO): responsible for directing business technology strategy and overseeing the implementation of information systems
2. Technology Innovation Manager: expert in identifying and applying emerging technologies to drive business growth
3. Digital Transformation Consultant: professional specialized in guiding companies in their transition to digital models
4. Business Intelligence Specialist: in charge of designing and implementing analytical solutions to optimize decision making
5. IT Security Manager: professional responsible for ensuring the protection of business systems and data against threats
6. Technology Project Leader: in charge of planning, executing and supervising IT-related projects

Complete this Advanced Master's Degree and take your career to the next level, accessing key roles in the field of Information Systems Management"

06

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

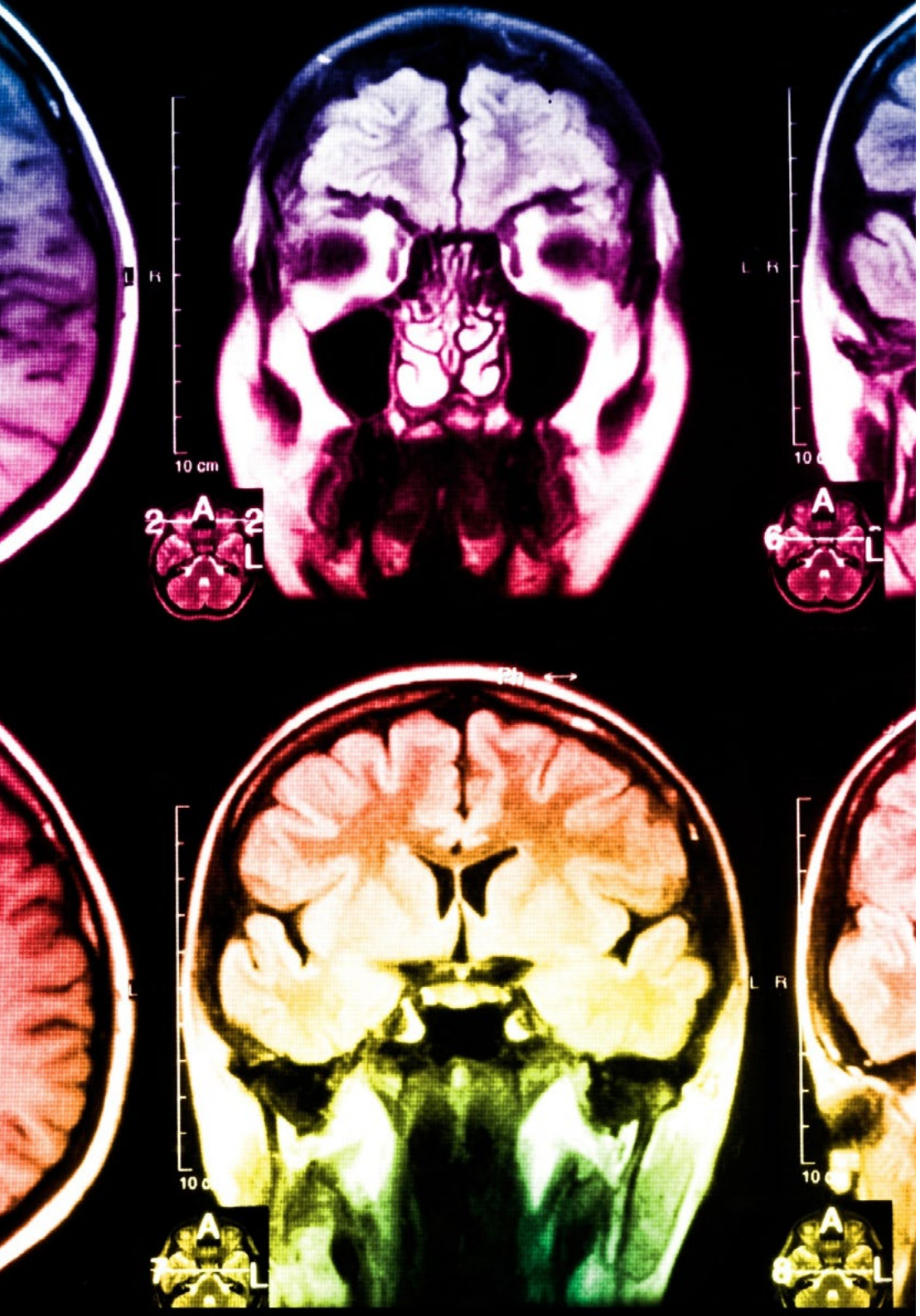
In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

"The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Trustpilot review platform, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

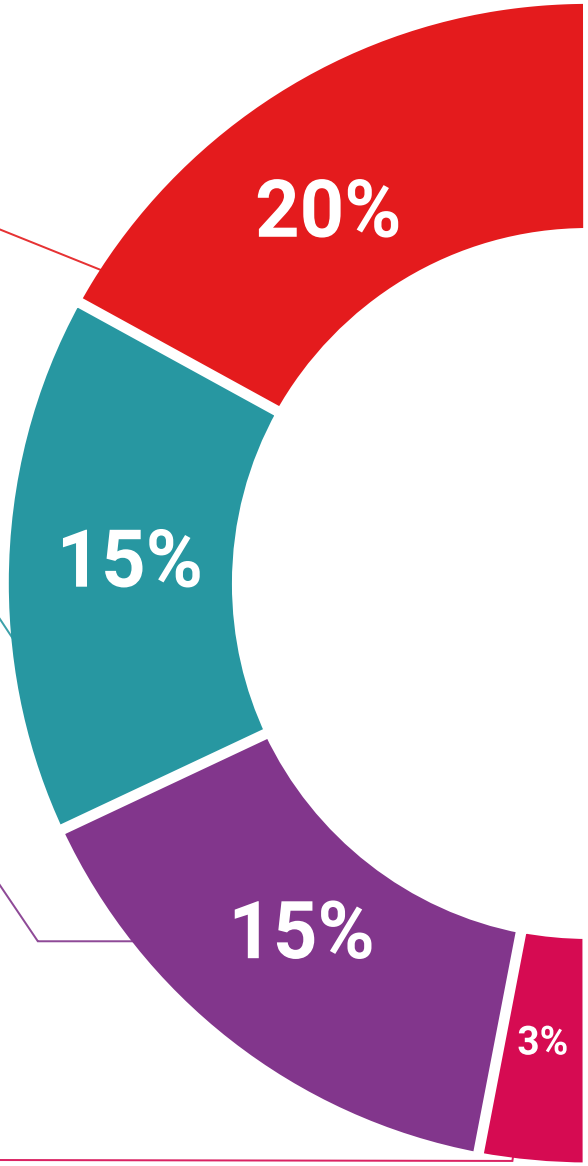
Interactive Summaries

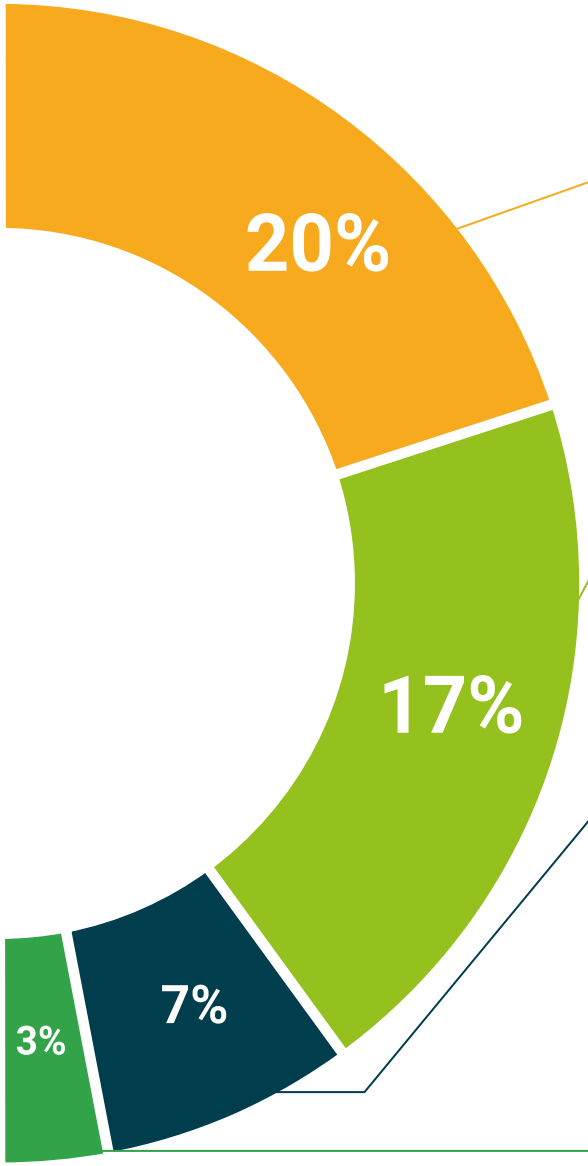
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence for future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

07

Certificate

The Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer) guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This private qualification will allow you to obtain a **Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer)** endorsed by **TECH Global University**, the world's largest online university.

This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer)**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer)

This is a private qualification of 3,600 hours of duration equivalent to 120 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates


Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer)

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Leadership, Ethics, and CSR	7	CO
1º	Strategic Direction and Executive Management	7	CO
1º	People and Talent Management	7	CO
1º	Economic and Financial Management	7	CO
1º	Operations and Logistics Management	7	CO
1º	Information Systems Management	7	CO
1º	Commercial Management, Marketing, and Corporate Communications	7	CO
1º	Innovation and Project Management	7	CO
1º	Physical Fundamentals of Computing	7	CO
1º	Computer Technology	7	CO

Year	Subject	ECTS	Type
2º	The Structure of Computers	7	CO
2º	Operating Systems	7	CO
2º	Advanced Operating Systems	6	CO
2º	Free Software and Open Knowledge	6	CO
2º	Computer Networks	6	CO
2º	Emerging Technologies	6	CO
2º	Information Systems Security	6	CO
2º	Integration Systems	6	CO

Dr. Pedro Navarro Illana
Dean

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Advanced Master's Degree

Information Systems Management (CIO, Chief Information Officer)

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Global University**
- Accreditation: **120 ECTS**
- Schedule: **at your own pace**
- Assessments: **online**

Advanced Master's Degree

Information Systems Management (CIO, Chief Information Officer)

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